

Haemorrhage

Def: Escape of blood from the vascular system.

Types of Hge

1. According to site

a) Revealed (apparent)

- i. External
 - a. Wounds
 - b. Ulcers
 - c. Tumours
- ii. Natural orifices
 - a. epistaxis
 - b. hemoptysis
 - c. hematemesis
 - d. hematuria
 - c. menorhagia

b) Concealed

i. Internal Haemorrhage

- a. hemothorax
- b. hemopericardium
- c. hemoperitoneum
- d. hemarthrosis

ii. Interstitial Haemorrhage

- a. hematoma
- b. bruises

2. According to the causative blood vessel

i. Arterial

- a. Bright red
- b. long distance
- c. oscillations
- d. ↓ with prearterial pressure

ii. Venous

- a. dark red
- b. trickle on the skin
- c. continuous
- d. ↓ with distal pressure

iii. Capillary

- a. oozing
- b. bright red

3. According to Etiology

i. Traumatic

(according to the time)

a) Primary

at the time of injury

b) Secondary (during 2nd week)

Sepsis → dissolves the clot → erodes the vessel wall

c) Reactionary (1st day)

↑ Blood Pressure → slipped ligature

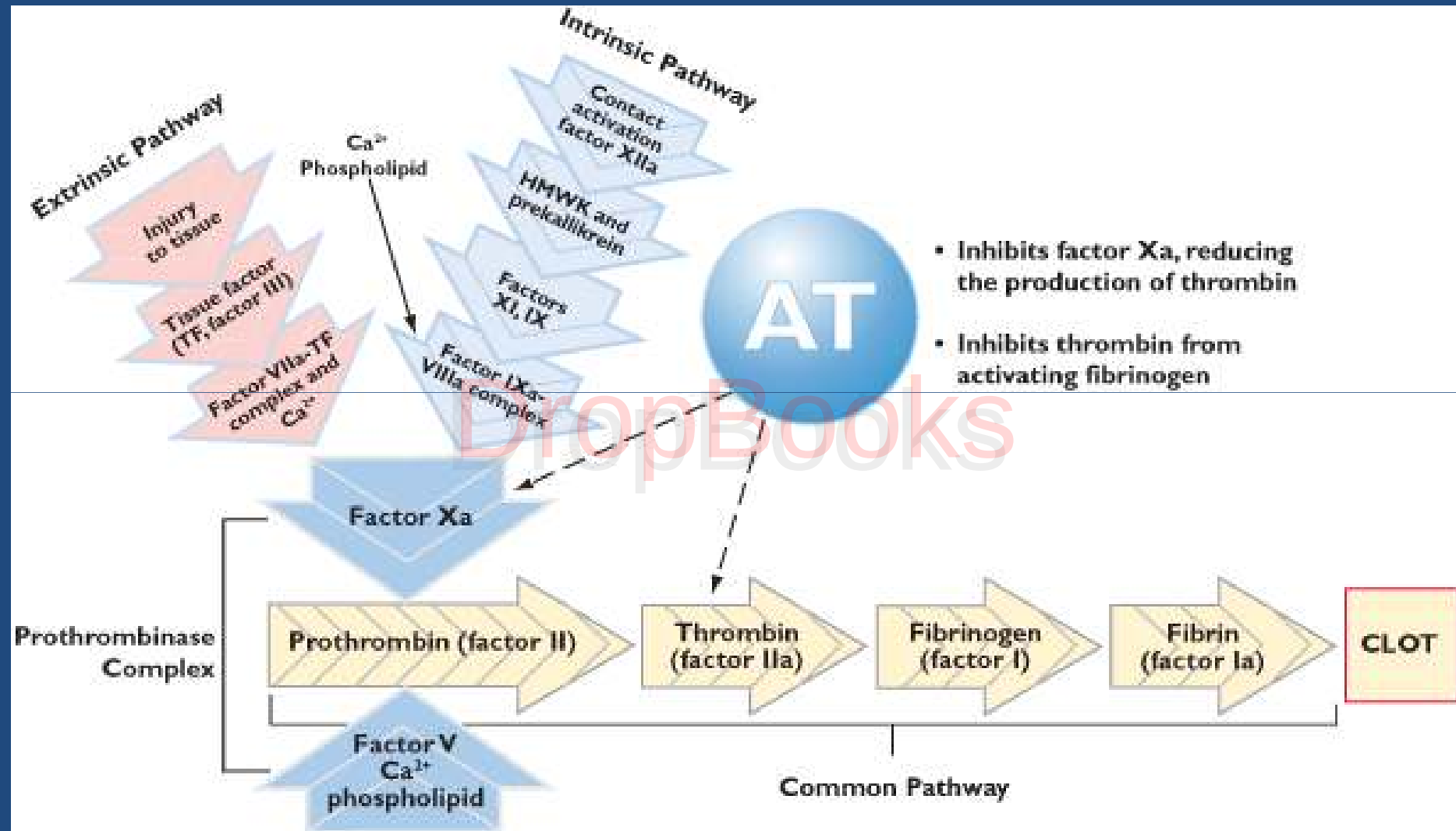
ii. Pathological

a) Erosion of the blood vessel wall 2^{ry} to sepsis or tumour

b) Defective coagulation process

e.g. hemophilia, liver disease with ↓ vit.K, vit.C deficiency, drug toxicity

Mechanism Of Hemostasis



Adapted from Escobar et al.¹

Clinical Picture Of Hge

1)Acute Hge

- a) General
- b) Local

2) Chronic Hge

1) Acute Hge

- **A) General**

- Signs and symptoms of shock

- i) Rapid weak pulse
 - ii) Low systolic and diastolic pressure
 - iii) Cold sweaty skin
 - iv) Restlessness and fear
 - v) Deep sighing respiration (Air Hunger)
 - vi) Collapsed peripheral veins
 - vii) ↓ Urine output volume

- **B) Local**

- BLEEDING

- i) External
 - ii) Internal
 - iii) interstitial

2) Chronic Hge

Anemia(pallor, easy fatiguability)



Heart Failure

e.g. Bleeding Piles

Bleeding Peptic Ulcer

Hemophilia

- Hemorrhagic condition caused by deficiency of Factor VIII in the blood(AHG)
(ANTIHEMOPHILIC GLOBULIN)
- Sex linked transmitted by asymptomatic female carrier and manifests only in Males.
- Bleeding may be precipitated by minor trauma or may be spontaneous
- If you plan surgery you must prepare AHG(bottles) given before, during, and after the operation or Fresh blood or Fresh frozen plasma.

Treatment Of Hge

- **STOP BLEEDING**

- a) Pressure and Packing

- Pack + Tourniquet(time??)

- b) Position

- O₂ Inhalation

- c) Sedation(e.g morphine)

- To relieve pain, calm restlessness, aid cerebral and coronary blood flow

- d) Operations

- Artery forceps
 - Electro coagulation
 - Packing the wound
 - Packing with surgical or piece of muscle or Gel Foam→ thrombokinase→stops bleeding



- **RESTORE BLOOD VOLUME**



- 1) Blood Transfusion

- 2) Fluid+Plasma

Shock

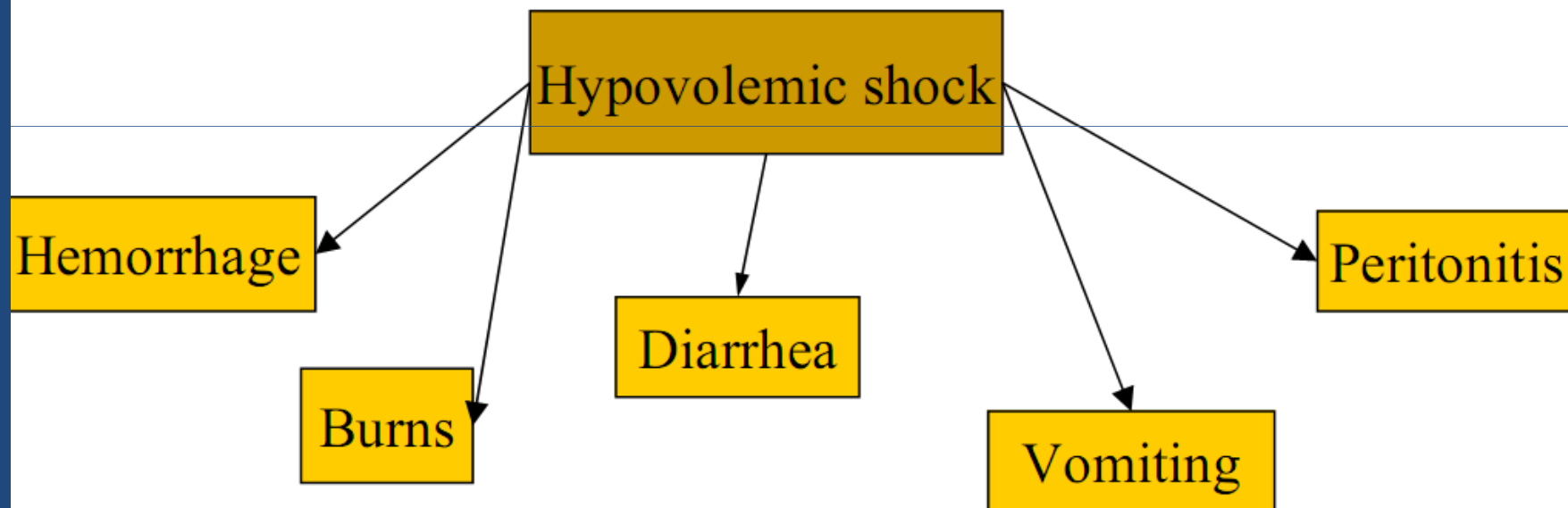
DropBooks

Shock is a term used to describe a
clinical state (not a disease)
comprising pallor, sweating, coldness &
peripheral cyanosis

Definition:

- inadequate delivery of oxygen and nutrients to maintain normal tissue and cellular function

Types of Shock



Cardiogenic

Cardiomyopathy

Pulmonary Embolism

Myocardial Infarction

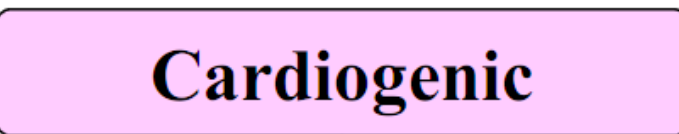
Heart Disease

Arrhythmia

Aortic Aneurysm

Cardiac Tamponade

Cardiac Contusion



Vasogenic

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graph TD; A[Vasogenic] --> B(Psychogenic); A --> C(Septic); A --> D(Anaphylactic);
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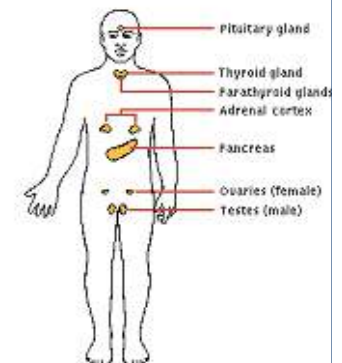
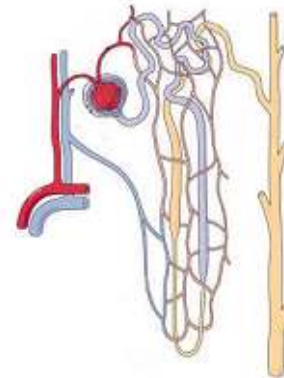
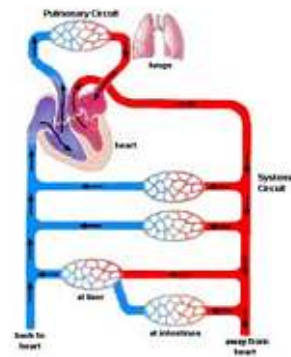
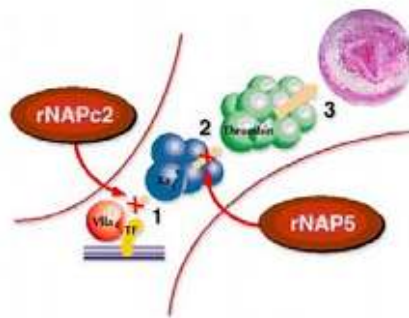
Psychogenic

Septic

Anaphylactic

Hypovolemic Shock

- The human body responds to acute hemorrhage by activating 4 major physiologic systems: the hematologic system, the cardiovascular system, the renal system, and the neuroendocrine system.



Vasodilatory shock (septic shock)

- In vasodilatory shock, hypotension results from failure of the vascular smooth muscle to constrict appropriately. Vasodilatory shock is characterized by both peripheral vasodilatation with resultant hypotension, and resistance to treatment with vasopressors

Neurogenic Shock :

- Neurogenic shock refers to diminished tissue perfusion as a result of loss of vasomotor tone to peripheral arterial beds. Loss of vasoconstrictor impulses results in increased vascular capacitance, decreased venous return, and decreased cardiac output

Symptoms of Shock

General Symptoms

- Anxiety /Nervousness
- Dizziness
- Weakness
- Faintness
- Nausea & Vomiting
- Thirst
- Confusion
- Decreased UO

Specific Symptoms

- Hx of Trauma / other illness
- Vomiting & Diarrhoea
- Chest Pain
- Fevers / Rigors

Signs of Shock

Pale

Cold & Clammy sweating

Cyanosis

Tachypnoea

Tachycardia

Unconscious

Hypotensive

Stridor

Confused / Agitated

Treatment of shock

- I.V. drip e.g. blood, plasma, fluids
- Steroids e.g. anaphylactic & septic shock
- Antibiotics
- Oxygen
- Positioning